REMARKS

Applicants graciously thank the Examiner for the Teleconference of May 29, 2008 in which the Examiner and Applicants' representative, Matthew Weinstein, discussed the Office Action dated March 17, 2008 and the outstanding rejection over the cited combination of Glenn, Chia, and Barton.

In light of the discussion in the Teleconference of May 29, 2008, Applicants have amended claim 18. Claim 79 has been added to round out the scope of protection of the invention. No new matter has been introduced. Claims 18-22, 63-70, and 79 are pending in the application.

Claims 18-22 and 63-70 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Appl. Pub. No. 2001/0014486 to Glenn ("Glenn") in view of U.S. Patent No. 6,225,695 to Chia et al. ("Chia"), and U.S. Patent No. 6,744,109 to Barton et al. ("Barton"). The rejection is respectfully traversed.

The claimed invention generally relates to methods of forming die packages having an adhesive flow restriction area. As such, claim 18 recites an imaging device, comprising "a die having a first surface containing an array of imaging elements; and a transparent element adhesively attached to the die by an adhesive material, the first surface of the die having at least one adhesive flow restriction area for impeding flow of an adhesive across the first surface of the die, wherein the adhesive flow restriction area comprises at least one trench *extending below the first surface of the die*." (emphasis added). The references of record, alone or in combination, fail to disclose, teach, or suggest each and every limitation of claim 18.

Glenn does not disclose, teach, or suggest "[a] first surface of the die having at least one adhesive flow restriction area for impeding flow of an adhesive across the first surface of the die, wherein the adhesive flow restriction area comprises at least one trench *extending below the first surface of the die*," as recited by claim 18. The Office Action characterizes Glenn's encapsulant locking feature, depicted in FIG. 19, as having the "adhesive flow restriction area" of claim 1. (Office Action at pg. 2). Even assuming this characterization were correct, which Applicants do not

concede, Glenn's encapsulant locking feature only has a groove 90 for "increas[ing] the surface area of cover 89 in contact with bead 48, and thereby strengthens the connection between cover 89 and bead 48 and package 30." (Glenn, ¶0095). As corroborated by FIG. 19 of Glenn, Glenn's groove 90 does nothing to restrict the flow of the adhesive in either direction on the die. Importantly, Glenn's groove 90 is located in its cover 89, not, as claimed, "extending below the first surface of the die."

Neither Chia or Barton cures the deficiencies of Glenn.

As the Office Action notes, FIG. 3A of Barton shows barriers 330 which prevent adhesive from flowing in the direction of the microlenses 130. (Office Action at 2; Barton, Abstract; FIG. 3A). The Office Action asserts that the area between barriers 330 and standoffs 320 is a "trench." Even if this were true, which Applicants do not concede, this "trench" between barriers 330 and standoffs 320 does not "extend[] below the first surface of the die," as claim 18 recites.

The Office Action also notes that the "Chia reference does show trenches... that would serve to impede the adhesive flow." (Office Action at 2). To the contrary, however, Chia teaches away from combination from Glenn or Barton. Chia relates to "increas[ing] the thermal conductivity of [a] heat transfer path between [a] semiconductor die 310 to [a] heat sink 304," and even assuming that one of ordinary skill would have attempted to combine Chia with the teachings of Glenn, which Applicants do not concede, Chia's grooves 316 cover the *entire* inactive surface of the die to "*increase* the surface area of contact *on the ... die* 310 for the adhesive." (Chia, col. 4, lns. 25-40). As FIG. 3 of Chia corroborates, Chia's grooves 316 do nothing to restrict the flow of the adhesive in either direction on the die, they in fact *facilitate* that flow. Adhesive 304 is applied *deliberately* across the entire surface of the die. (*e.g.*, FIG. 3). Further, as the Office Action admits, Chia's grooves 316 are formed in "the inactive side of the device," not on "a first surface containing an array of imaging elements," as recited in claim 18. (Office Action at 2).

Accordingly, none of the references, considered individually or in combination, disclose, teach or suggest "a die having a first surface containing an array of imaging elements, ... the first surface of the die having at least one adhesive flow restriction area for impeding flow of an adhesive across the first surface of the die, wherein the adhesive flow restriction area comprises at least one trench extending below the first surface of the die."

For at least these reasons, Applicants respectfully submit that claim 18 is allowable over the cited combination, and requests that the rejection be withdrawn. Claims 19-22, 63-70, and 79 depend from claim 18, and are allowable for at least these reasons as well as on their own merits.

In view of the above, Applicants believe the pending application is in condition for allowance. The Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 04-1073, under Order No. M4065.1005/P1005.

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Respectfully submitted,

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